

MASTAAN RANDHAWA

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SKILLS

Technical Skills - Python, C/C++, Assembly, JavaScript, HTML/CSS

Frameworks - Bootstrap, ReactJS, ThreeJS, SpringBoot, TailWind

Others - Git, MongoDB, MySQL/SQL/SQLite, Figma, Render, Docker, AWS, REST API

PERSONAL PROJECTS

Amenity Recommender

February - April 2024

- Built a Python-based pipeline to ingest, clean, and smooth OpenStreetMap and GPX data using Kalman filtering.
- Implemented scoring algorithms to filter, rank, and select thousands of points of interest/amenities.
- Developed map visualizations and automated CSV/PNG exports to deliver clear, data-driven insights.

Website Template

December 2024 - Present

- Developed a modern, responsive template tailored for churches, using React and AWS for seamless deployment.
- Leveraged Tailwind CSS for efficient styling and responsiveness.
- Integrated React to enhance interactivity and improve user experience.

AKWRAPS.CA

June - September 2024

- Developed a web service for a car wrapping business using JavaScript, alongside ThreeJS for 3D visualizations.
- Utilized Thymeleaf for server-side rendering and Docker for streamlined deployment processes.
- Integrated responsive design and interactivity to enhance user engagement.

TECHNICAL PROJECTS

RISC-V Processor

September - December 2023

Operating Systems (CMPT 295), SFU

- Developed a RISC-V processor to explore how processors execute instructions at the hardware level.
- Implemented custom SLT-type instructions using C/C++/Assembly to extend base functions.
- Produced and decoded output for a concise representation of executed instructions.

Multi-level Cache System

September - December 2023

Operating Systems (CMPT 295), SFU

- Designed and managed multi-level cache systems to address challenges in reducing cache misses and latency.
- Implemented advanced caching functions using C/C++, including LRU and LFU eviction algorithms.
- Optimized memory allocation with dynamic data structures to efficiently manage cache sets, lines, and blocks.

EXPERIENCE

Executive

November 2023 - Present

Google Developers Student Club, Burnaby, BC

- Designed visuals for 30+ GDSC events, producing 90+ social media assets (posts, stories, banners, posters) and boosting RSVPs and engagement by 25%.
- Led tech initiatives and created solutions aligned with the club's vision to equip peers with new skills.

OTHER WORK

Vision Centre Associate

June 2021 - Present

Walmart, New Westminster, BC

- Collaborated with optometrists and the team to deliver optical solutions, ensuring seamless patient care.
- Communicated complex eyewear details with clarity to help customers make informed decisions.
- Resolved customer needs by aligning products (e.g., blue-light lenses, transitions) to their prescriptions.

EDUCATION

BSc. Degree Computer Science

June 2022 - Present

Simon Fraser University, Burnaby, BC